Abstract

[0026]   Space-time block coding is combined with single-carrier, minimum-mean-square-error, frequency-domain equalization for wireless communication through a medium characterized by multi-paths. The transmitter encodes incoming symbols into two or more streams that are transmitted over a corresponding number of transmitting antennas. The encoding employs modulo arithmetic. Decoding in the receiver proceeds by converting received signals to frequency domain, linearly combining the signals to separate contribution of the signals from the two or more transmitting antennas equalizing the separated signals, converting the equalized signals to time domain, and applying the converted signals to a decision circuit.